

## HERITAGE TOURISM AND ENVIRONMENTAL CONSERVATION: AN EMPIRICAL STUDY

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### Abstract

Heritage tourism has become one of the most important branches of the international tourism business that makes a considerable contribution to the economic growth, creation of new jobs, and cultural conservation. Nonetheless, the fast growth of heritage tourism has also cast concern in relation to the degradation and ecological imbalance of the environment as well as the degradation of heritage sites. The paper is an empirical study of the correlation between the development of heritage tourism and environmental conservation, especially the tourist awareness, conservation practices, and environmental impacts of heritage sites. A structured questionnaire was used to collect primary data of 120 respondents and analysed through the use of SPSS tools including reliability analysis, descriptive statistics, correlation, and regression analysis. The results have shown that heritage tourism and environment conservation are positively correlated, implying that awareness and proper conservation efforts are important in reducing the destruction of the environment. The research finds that, a sustainable management of heritage tourism can be used as a potent tool of environmental protection and sustainable development in the long term.

**Key Words:** Heritage Tourism, Environmental Conservation, Sustainability, Tourist Awareness, SPSS Analysis.

### Introduction

Heritage tourism can be described as traveling in order to explore places and structures of monuments, cultural landscapes and activities that signify the historical and cultural identity of the area. Heritage tourism takes a centre stage in such countries as India, which has a large number of historical monuments, archaeological sites, religious centres and destinations rich in culture. Heritage tourism has a great contribution to the development of the region in terms of the creation of jobs, infrastructure enhancement, as well as, cultural exchange.

In spite of this, there have been grave environmental issues as a result of uncontrolled development of tourism at heritage sites. High flows of tourists tend to develop waste materials, air and noise pollution, exploitation of natural resources, and physical destruction of the monuments. Preservation of the environment has hence been incorporated in the heritage tourism planning process. Sustainable heritage tourism also focuses on the balanced approach in a way that the economic benefits are met without depleting the environmental and

cultural resources to the future generations.

This paper attempts to empirically examine how heritage tourism helps in conserving the environment or leads to environmental degradation based on the extent of awareness of the tourist, and the success of the conservation efforts.

### Review of Literature

Environmental conservation and heritage tourism are two aspects that have commonly appeared in scholarly literature. UNESCO (2019) also highlighted that heritage tourism may become a crucial part of environmental protection because of several financial resources generated to preserve the cultural and natural heritage and the spread of awareness about the importance of cultural and natural heritage among people. UNESCO argues that the key to this is the sustainable tourism practices that make sure that heritage sites are maintained without being affected by any change in authenticity.

Timothy and Boyd (2015) emphasized that community involvement, visitor learning, and legal systems should be used to manage heritage tourism. They claimed that local communities are very

significant in conservation because they are the one who is directly influenced by tourism activities. In their study, they underlined a better environmental outcome that is a result of community-based tourism.

A number of scholars have also indicated that uncontrolled heritage tourism has adverse environmental effects. Sharma (2020) noted that too much tourist traffic on the heritage sites causes soil erosion, water pollution, and structural damages to monuments. According to Gupta and Singh (2021), lack of implementation of environmental laws in most cases leads to permanent ecological destruction, especially in delicate heritage ecosystems.

Recent research has directed its attention on tourist awareness as one of the determinants of sustainable tourism behaviour. Kumar and Verma (2022) discovered that more environmentally aware tourists are much more likely to engage in responsible tourism practices (waste segregation, energy conservation, and heritage buildings respect). Nevertheless, the paper has also highlighted that awareness without proper conservation infrastructure and stringent control mechanisms is not enough.

The literature review has revealed a research gap in the empirical research which focuses on development of heritage tourism, tourist awareness, conservation and environmental results at the same time through quantitative research. The given research tries to fill this gap.

### **Objectives of the Study**

- To determine the linkage between heritage tourism development and conservation.
- To determine the extent of environmental consciousness among the visitors to heritage sites.
- To examine conservatory strategies on environmental degradation.
- To offer recommendations to the development

of sustainable heritage tourism.

### **Hypotheses of the Study**

H01: Heritage tourism and environmental conservation do not have a significant relationship.

H02: Environmental awareness has no significant effect on responsible tourist behaviour.

H03: There is no significant environmental degradation in conservation measures.

### **Research Methodology**

The research is founded on primary data, gathered on the basis of the structured questionnaire, with the application of the five-point Likert scale. A convenient sample of 120 respondents was chosen among the hand-picked heritage destinations. Academic journals, government reports, and institutional publications were used to gather secondary data.

The data that were obtained were analysed by SPSS software. The hypotheses were tested using statistical tools like reliability analysis, descriptive statistics, correlation analysis, and regression analysis.

### **Data Analysis and Interpretation:**

Data obtained with the help of the structured questionnaire were processed with the help of SPSS to make reasonable conclusions about the topic of heritage tourism and environmental protection. The demographic analysis was conducted before testing the hypotheses to get to know the socio-economic background of the respondents. This was carried out by the reliability analysis, descriptive statistics, correlation and regression analysis.

### **Demographic Profile of the Respondents:**

It is also important to know the demographic profile of the respondents because the age, gender, education and occupation of tourists play a significant role in influencing the perceptions and environmental behaviour of tourists. Demographic profile gives the background of the interpretation of the study outcome.

Table 1: Demographic Characteristics of the Respondents (N 120)

| Hypothesis                | Category         | Frequency | Percentage |
|---------------------------|------------------|-----------|------------|
| Gender                    | Male             | 67        | 55.8       |
|                           | Female           | 53        | 44.2       |
| Age Group                 | Below 25 Years   | 31        | 25.8       |
|                           | 25-40 Years      | 53        | 44.2       |
|                           | 40-60 Years      | 27        | 22.5       |
|                           | Above 60 Years   | 9         | 7.5        |
| Occupation                | Student          | 27        | 22.5       |
|                           | Employed         | 57        | 47.5       |
|                           | Self-Employed    | 23        | 19.2       |
|                           | Others           | 13        | 10.8       |
| Educational Qualification | Undergraduate    | 35        | 29.2       |
|                           | Post Graduate    | 54        | 45.0       |
|                           | Doctorate/Others | 31        | 25.8       |

The demographic profile shows that most of the respondents are in the economically active age group of 25 -40 years and this implies that most of the working age tourists are more involved in heritage tourism. The fact that the proportion of postgraduate and professionally qualified respondents is rather high implies that the sample is

adequately educated and this might be one of the reasons of the high environmental awareness level in the future analysis.

**Reliability Analysis**

Before proceeding with further analysis, the reliability of the questionnaire was tested to ensure internal consistency of the measurement scale.

Table 1: Reliability Statistics

| Cronbach's Alpha | Number of Items |
|------------------|-----------------|
| 0.82             | 15              |

The Cronbach's Alpha value of 0.82 indicates a high level of internal consistency among the questionnaire items. This confirms that the research

instrument is reliable and suitable for further statistical analysis.

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### Descriptive Statistics

Descriptive statistics were employed to summarize respondents' perceptions regarding heritage tourism development, environmental awareness, conservation measures, and environmental degradation

**Table 2: Descriptive Statistics of Key Variables**

| Variable                     | N   | Mean | Std. Deviation |
|------------------------------|-----|------|----------------|
| Heritage Tourism Development | 120 | 4.10 | 0.62           |
| Environmental Awareness      | 120 | 4.02 | 0.71           |
| Conservation Measure         | 120 | 3.78 | 0.68           |
| Environmental Degradation    | 120 | 3.95 | 0.74           |

The large mean scores of heritage tourism development and environmental awareness point to the fact that the respondents find that the level of tourism development and environmental awareness is quite high. The difference in mean score between conservation measures is however low and this indicates that there is relatively a weak implementation of conservation initiatives in a

practical manner. The fact that the score of environmental degradation is rather high shows that the respondents experience observable environmental pressure in heritage sites.

### Correlation Analysis

Correlation analysis was conducted to examine the relationship between heritage tourism development and environmental conservation.

**Table 3: Pearson Correlation Analysis**

| Variable                     | Heritage Tourism | Heritage Tourism |
|------------------------------|------------------|------------------|
| Heritage Tourism Development | 1                |                  |
| Environmental Conservation   | 0.648*           | 1                |

\*(Significant at 1% level)

The value of the Pearson correlation coefficient of 0.648 shows that there is a strong positive relationship between environmental conservation and heritage tourism. The null hypothesis H01 is rejected since the relationship is statistically significant. This implies that when heritage tourism is run well, it has a positive impact on conservation.

### Regression Analysis

The regression analysis was used to compare the effects of environment awareness and conservation on tourist behaviour and environmental degradation of heritage sites. The approach can be used to determine the intensity, direction, and importance of the relationships between the chosen independent and dependent variables.

**A. Impact of Environmental Awareness on Responsible Tourist Behaviour**

**Table 4: Regression Coefficients**

| Variable                | B    | Std. Error | Beta  | T    | Sig.  |
|-------------------------|------|------------|-------|------|-------|
| Constant                | 1.12 | 0.24       | -     | 4.67 | 0.000 |
| Environmental Awareness | 0.68 | 0.08       | 0.612 | 8.86 | 0.000 |

According to the regression findings, environmental awareness positively affects responsible tourist behaviour at a significant and statistical level. The unstandardized coefficient ( $B = 0.68$ ) indicates that increasing environmental awareness by one unit will increase the responsible tourist behaviour by 0.68 units all things being equal. This shows that increased awareness leads directly to more responsible actions on the part of the tourists towards the environment. The standardized beta coefficient ( $= 0.612$ ) is significant and shows a large effect size, which means that environmental awareness is an influential predictor of responsible tourist behaviour. The significant t-value ( $t = 8.86$ ) and the value of the significance level ( $p = 0.000$ ) indicates that this relationship is significant at the 1% level, thus eliminating the

chances of the observed effect to have happened due to chance. The constant figure (1.12) is the level of responsibility behaviour at the absence of environmental awareness which means that there is at least some degree of responsible behaviour. Nevertheless, the overall significant growth linked to awareness testifies to the fact that it is a critical factor in tourist behaviour formulation. Based on these results, the null hypothesis H02 according to which environment awareness does not play a significant role in responsible tourist behaviour will be rejected. The findings prove that the awareness of the environment is one of the major factors that can enhance sustainable tourism behavior at the heritage sites. **Impact of Conservation Measures on Environmental Degradation**

**Table 5: Regression Results**

| Variable             | Beta   | t.    | Sig.  |
|----------------------|--------|-------|-------|
| Conservation Measure | -0.574 | -7.42 | 0.000 |

The regression model that considers the effect of conservation on environmental degradation indicates that the association between the two variables is significant and negative. The standardized beta coefficient ( $b = [-?]0.574$ ) states that as the conservation measures improve, the environmental degradation decreases significantly. The minus symbol of the coefficient denotes an inverse relationship i.e. the higher conservation efforts, which are put in place, the lesser the rate of environmental degradation. The t-value ( $t =$

$[?]7.42$ ) is high in absolute terms and the level of significance ( $p = 0.000$ ) indicates that this relationship is statistically significant at the 1% level. It is an indication that conservation efforts including effective waste management, controlled visitor numbers, regular maintenance, and implementation of environmental laws decisively contribute to reduction of pollution, physical destruction, and ecological strains at heritage sites. On the basis of these findings, the null hypothesis H03 which presupposes that conservation



measures do not play a significant role in the occurrence of environmental degradation is rejected. The results also highlight that conservation strategies are critical in the preservation of heritage sites and making sure that they are environmentally sustainable in the long run.

#### Summary of Hypotheses Testing

| Hypotheses      | Result   |
|-----------------|----------|
| H <sub>01</sub> | Rejected |
| H <sub>02</sub> | Rejected |
| H <sub>03</sub> | Rejected |

#### Findings and Discussion

The research indicates that in cases where there is a high tourist awareness and the existence of efficient conservation mechanisms heritage tourism can play a positive role towards environmental conservation. These results suggest that when tourists are traveling to the heritage sites, they tend to exhibit a sense of environmental concern and the value of conservation of cultural and natural heritage. Nevertheless, in spite of this relatively good rate of awareness, the practical side of conservation activities in most heritage sites is poor. This is a weakness that underscores the importance of enforcing a stronger policy, to establish better conservation infrastructure and taking a more active role in heritage management authorities. Individual awareness cannot work in isolation without proper institutional support in order to achieve the sustainable environmental results.

On the analysis of the data, the following key findings were made:

**1. Close correlation between heritage tourism and environmental conservation:** The research establishes a positive correlation between heritage tourism development and the environmental conservation. Properly managed heritage tourism has the potential of

reinforcing conservation activities, enhancing the general understanding of heritage value, and promoting preservation-based behaviours. This relationship shows that tourism, when well managed can serve as a booster to environmental protection as opposed to being a menace.

- 2. Strong environmental awareness of tourists:** The tourists who visit heritage sites are usually very environmental conscious. In this case, most tourists are aware of the problem of pollution, waste disposal, and preservation of heritage buildings and ecosystems around them. This consciousness indicates that the increasing role of environmental learning, media coverage and global sustainability rhetoric on tourist perceptions is increasing.
- 3. Poor application of conservation efforts:** Conservation efforts at heritage sites are not being done effectively although most tourists are highly aware. The lack of adequate waste disposal facilities, effective signage and overcrowding, and ineffective monitoring systems are some of the issues that inhibit the success of the conservation efforts. This observation implies that the advantages of environmentally conscious tourism are hampered by the managerial and infrastructural failures.
- 4. Environmentally conscious tourists: responsible behaviour:** The analysis notes that, the more the environmental awareness of the tourists, the more responsible behaviour occurs. Some of the behaviour includes minimised littering, responsible utilisation of facilities, respect towards heritage buildings and compliance with site rules. It means that awareness has a positive impact on the actions of individuals and can be used to protect the

environment provided that suitable facilities and instructions are offered.

5. **Role of good conservation practices in lessening degradation:** It has also been seen that effective conservation measures are vital in reducing the degradation of the environment at heritage sites. Effective waste management, controlled movement of visitors, regular maintenance, and application of conservation rules can be used to maintain the physical state of heritage monuments and also the environment around them. These will improve the sustainability of the site as well as increasing the quality of the tourist experience.
6. **Gap between awareness and action:** The evidence of the empirical data indicates a deep gap between the consciousness of tourists and the actual conservation gains, which is allegedly due to the poor institutional scaffolding. Even though tourists usually claim their readiness to act in the responsible way, the existing lack of proper facilities, clear rules, and strict enforcement strangles the proper action. This observation calls forth a call of increased government intervention, a coordinated movement of multi-pole authorities and holistic conservation plan to turn this awareness to real environmental stewardship.

#### **Recommendations:**

Research based on the empirical evidence of the study only underlies the following recommendations, which are supposed to promote sustainable heritage tourism and reduce the ecological degradation:

#### **Building Highly Protected Infrastructure.**

The management bodies in heritages need to establish continuous investment in the conservation infrastructure in the heritage sites.

This investment should include installation of waste-management systems, necessary sanitation systems, energy-efficient lighting, and water saving systems. Additionally, the enforcement of thought-through routes, physically defined zones, and controlled areas of entry would help to control visitor flows and exclude the negative effects on monuments and their surrounding ecology. These infrastructural improvements are likely to ease the burden on the environment besides increasing the total visitor experience.

#### **Mandatory Environmental Environmental Awareness Programs.**

Incorporation of the same environmental awareness in the governance of heritage tourism is inalienable. Planned online and physical orientation initiatives need to be conducted to educate the tourists about the environmental and cultural importance of heritage sites. Information dissemination can be done by means of explanatory signages, audio-visual displays, mobile applications and digital outreach initiatives to instill responsible tourist behaviour like littering abstinence, biodiversity respect and integrity of the monuments. The increased consciousness would tend to have a good impact on the attitude of tourists and cultivate environmentally responsible behaviour.

#### **Conservation through Community participation.**

The active involvement of local communities in heritage conservation must be actively encouraged as these groups of stakeholders are central to the sustainable tourism development. Locally based projects such as guide tours, clean up campaigns, heritage watch groups, eco-friendly souvenirs can create jobs and help create a sense of ownership and responsibility to heritage property. When the locals get economic and social gains out of the tourism industry, such that reflects on them they will exhibit

a higher degree of supporting and promoting conservation efforts that would be translated into better environmental results.

#### **Harmonious Coexistence of Environmental control.**

There is a need to have strong and consistent implementation of environmental laws in heritage sites. Governments should implement punitive measures in regards to littering, vandalism, defacing monuments, and going off conservation guidelines. Constant monitoring, the implementation of security officers, establishment of clear reporting systems are critical measures that would ensure compliance. Efficient enforcement also serves as a preventive measure and helps to emphasize the necessity to protect the heritage sites to the future generations. Tourism sustainability policies are relevant to the planning process and contribute to improving the quality of services provided to tourists.

#### **Integration of Sustainability in Tourism Policies.**

Environmental sustainability should be clearly entrenched in the tourism development statutes as one of its pillars. The long-term planning process must be oriented to achieving the balance of tourism proliferation with the conservation needs via visitor capacity control, support of off-season tourism, and the encouragement of the use of environmentally friendly transport and lodging. The close working partnership between tourism ministries, environmental agencies and heritage authorities is inevitable so that the developmental projects do not affect the ecological and cultural qualities of heritage destinations.

#### **Conclusion**

The paper confirms that heritage tourism and the environmental conservation are inherently linked and each forms a precondition to the other.

Unrestrained tourism has negative impacts on heritage sites, and on the other hand, restrained and sustainable tourism can significantly contribute to the conservation of heritage sites. The results highlight the importance of an equal measure in which an environmental mindset is balanced with the community and an incisive regulation coupled with a robust conservation apparatus. Tourism authorities, as well as policymakers, should focus on environmental education, integrate sustainability in tourism planning, and enforce conservation laws with strictness. These kinds of all-inclusive approaches are essential to guarantee the sustainability and custodianship of heritage sites, thus making them to be enjoyed responsibly by the present and the future generations.

Future Research limitations and scope.

The current research is limited by the sample group and geographical coverage. Future research could involve conducting research on larger groups, across regions, and apply qualitative research approaches, to obtain more detailed data on the views of the stakeholders.

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